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ABSTRACT

This paper summarizes what the author has seen go wrong in six years of participation in online discussions and recommends some remedies. The emphasis is on helping discussion leaders to structure and guide online discussions for maximum effectiveness. The paper has a focus on learning environments, which are central to both formal academic training and to corporate training of personnel, but the principal findings apply also to corporate environments. The first section identifies the advantages of well-run online discussion. The second section describes the following common problems and suggests remedies: (1) participants don't realize the purpose; (2) purpose is unclear and expectations are vague; (3) lurking, i.e., participants just read but do not contribute; (4) a few people dominate all the discussion; (5) comments are trivial; (6) comments are opinion driven; (7) participants don't know what good input is; (8) nobody reads what is posted; (9) there is no tangible result; (10) too much e-mail; and (11) wrong software. The third section discusses collaborative learning online, and the fourth section covers constructivism and its relevance in the Information Age. The final section describes the FORUM98 conferencing software. (Contains 19 references.) (MES)

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What=s Wrong With On-line Discussions - And How to Fix It –

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Abstract. On-line discussions, whether for distance education or business purposes, are a normal component of Internet activities. Yet, such discussions often fail to achieve desired objectives. Herein, we describe 11 common problems with on-line discussions and present ways to avoid or fix the problems. The casual use of on-line discussions can be enriched and extended by collaborative and constructivist practices in an appropriate software environment.

On-line discussions can be like a party that nobody comes to ... or a party where people are dressed wrong ... or a party where they bring the wrong kind of presents ... or a party where a drunk spoils it all with his boorish behavior. But on-line discussions are accepted as normal components of Internet activities. In distance education, for example, on-line chats and asynchronous e-mail discussions are a standard part of many on-line courses, and increasingly serve as a complement to resident instruction (Klemm, 2000). In the business world, executives and workers conduct on-line discussions and meetings to save travel costs, cope with schedule and time zone conflicts, and develop and document corporate memory of ideas, plans, and projects.

However, such discussions often fail to achieve desired objectives. The purpose of this paper is to summarize what I have seen go wrong in my six years of participation in on-line discussions and to recommend some remedies that I and others have found. The emphasis is on helping discussion leaders to structure and guide on-line discussions for maximum effectiveness. The paper has a focus on learning environments, which are central to both formal academic training and to corporate training of personnel, but the principal findings apply also to corporate environments.

Why On-line Discussions Are Important

I will specify later how such discussions are commonly flawed, but first I need to affirm why they are important and why group leaders should try to perfect the way that discussions are managed. The advantages of well-run on-line discussions (Knowlton et al. 2000) include:

- Participants don=t feel so isolated
- Participants can build relationships
- Everyone has a chance to be heard
- Interactions with others can be motivating and instructive
- Discussions can provide broader perspective and new insights
- Views become subject to re-examination
- Ideas and facts can be processed at a deeper and more creative cognitive level

Asynchronous discussions have the additional advantages of:

- Avoiding schedule conflicts and providing convenience
- Providing time for research and reflection
- Organizing data and commentary more effectively

What Is Wrong With Many On-line Discussions

A list of common problems and remedies follows.

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Problem	Remedies
1. **Participants don't realize the purpose.** If a discussion does not have obvious goals and requirements, participants tend to think of it as a virtual lounge Depending on their need for socialization, they may or may not participate extensively. If they do participate, they may spend too much time in trivial chit chat, rather than intense intellectual dialog.	a. State the purpose and objectives explicitly b. Use content-rich topics c. Require group deliverables (plans, projects, reports, case studies, etc.)
2. **Purpose is unclear and expectations are vague.** If a discussion is just a work space for miscellaneous comments, people may not supply much relevant input. Indeed they may not know what relevant input is, because the group leader provided insufficient guidance.	a. Explain the purpose and goals b. Give feedback to serve as model c. Make certain everybody knows that important people are monitoring and evaluating participation
3. **Lurking. Participants just read, but do not contribute.** Some people are shy. Some are insecure. Some are not as well informed as others. But on-line discussion groups can be a great equalizer and can allow the talents and knowledge of everyone to be tapped in ways that never occur in face-to-face meetings.	a. Require input b. Publicly discourage lurking c. Reward input d. Minimize negative feedback e. Build community f. Build teams
4. **A few people dominate all the discussion.** The corollary of lurking is that a discussion becomes dominated by a few people who do all the Atalking.@ People get tired of their constant chatter. These people also tend to get carried away with idle comment.	a. Fix the lurking problem b. Make certain you have a group leader with authority c. Give gentle corrective feedback by private mail d. Post publicly the need to maintain focus, stay on task, and keep message volume down
5. **Comments are trivial.** Comments are weak, irrelevant, or off task	a. Discourage it and explain why b. Give examples of trivial input c. Have specific goals and tasks d. Remind people to stay on task e. Model desired behavior and praise others who do
6. **Comments are opinion driven**. Messages are often nothing more than each person=s opinion on a topic. Asking students, for example, to express their opinions, which is all that many teachers do, does little to develop students= knowledge base, not to mention their creative, integrative, and analytical abilities.	a. Insist that opinions be defended b. Create tasks that get beyond opinion
7. **Participants don=t know what good input is.** Many people have no experience with on-line discussions and little way to know what constitutes useful exchange of information.	a. Show by example what good input is b. Praise the good input of others

8. **Nobody reads what is posted**. I remember a presentation at an educational technology meeting where the speaker, a professor, proudly displayed a listing of all the e-mail messages his students had posted. Notably, the messages were all annotated with ANew,@ meaning that he had not read any of them. It is a good bet that the students had not read them either.	a. Create groups b. Use shared workspace, where many messages can be open in one place c. Assign group editor to write summaries
9. **There is no tangible result**. An unfocussed discussion without specific goals and tasks will almost inevitably prove unproductive.	a. Use a constructivist approach that requires participants to generate a product or some kind of deliverable
10. **Too much e-mail**	a. Put the burden of communication on the participants
11. **Wrong software.** The software is too klutzy to do much more than exchange e-mail. Lack of shared workspace is a common limitation of on-line conferencing software. Another problem is outline organization of separate e-mail messages.	a. Don't use software with threaded-topic organizing principle b. Use commercial software that supports shared workspace and hyperlinking as the organizing principle

Many of these solutions derive from two theoretical perspectives: the theories of collaboration constructivism Collaboration builds a sense of community. Ideally, team building occurs. In the business world, team building is a fundamental necessity in many companies. Educators increasingly value the building of learner terams (Berg, 1999).

Collaborative Learning On-line

Collaborative learning (CL) is a learning style in which small student groups work as teams to help each other master academic material (Goodsell, et al., 1992; Johnson and Johnson, 1989; Kaye, 1991). Collaborative learning (CL) approaches give students access to the shared knowledge, experience, and insights of other members of a learning team. CL is effective because it thoroughly engages students in learning activities and leverages the teacher's efforts by involving students in helping each other learn. CL is particularly important for high-order, critical thinking skills that must move beyond the passive memorization of facts to a deeper engagement in which students help each other to comprehend, assess, and apply information in ways that lead to new insights and understanding. CL promotes better thinking skills than competitive or individualistic learning environments (Gabbert et al., 1986).

Teamwork is a central element of this learning style. Effective CL requires that students be positively interdependent on one another (Johnson and Johnson, 1989). Assigning complementary roles to each team member helps assure that learning objectives are understood and appreciated by everyone.

Collaboration is especially needed in on-line learning., because learners tend to be isolated, without the usual social support systems found in on-campus instruction. Distance learners must disciplined and motivated in order to cope with the constraints and limitations of the relatively impersonal instruction that occurs via distance education technologies.

Asynchronous conferencing for on-line CL (Klemm, 1995) directly addresses under-participation. In simple discussions, participants find it easy to become Alurkers@ who may or may not read the messages and who certainly have no compelling need to create messages (Klemm, 1998b).

Some of the things that I have student groups do on-line include solving statistics problems and reaching a group consensus

on bioethics problems. The work is made much easier because they are helping each other to understand the problems and the approaches to solution (see www.cvm.tamu.edu/bims470). Another thing I do is have students participate in Ainsight exercises@ in which each student in a learning team asks a creative question about the subject matter (neuroscience) and then provides a rationale and strategy for answering it (Klemm, 1998c). Each student in the group then makes in-context critique comments in a shared document, building up a basis for the group to select the Abest@ question and answer, which they then refine and submit as a group for a group grade Each group has a group Leader (who assures that things get done on time and that everybody is pulling their share of the load), a Best Q&A Editor (who coordinates the debate and writes the revisions), and two or more Librarians, who do the library work to provide information. They develop a team spirit, actually wanting to compete with the other groups for the best grade. See www.cvm.tamu.edu/vaph451.

The common problems found with group work in on-campus teaching have not occurred in my classes. First, no one can make excuses about schedule conflicts. Secondly, everyone=s work is conspicuously available for inspection by everyone else. Students cannot hide, and they become motivated to display good work to their peers. And finally, I have students rate each other at the end of the course in terms of Ahelping@ behavior. These rankings allow me to give bonus points on the final grade, and students work hard to contribute to the group effort because they want those bonus points).

In the classes where on-line group work complements in-class lectures, groups consistently developed strong supportive bonding, reinforced by the face-to-face activities in class. In an Internet class last Fall when I tried group work, bonding was not evident. I blame this on my failure to set deadlines. I allowed groups to submit their work any time during the semester, and this irritated the more conscientious students because they had to wait on the procrastinators. Next time, I will set deadlines for each of the group projects and create a visibly competitive environment among the teams.

Constructivism

Constructivist theory supports the idea that work or learner teams need to DO something and generate a deliverable. For corporate work groups, this can range from a making a corporate decision to developing plans (such as business plans, or plans for such activities as marketing, new product or service development, acquisitions, and quality control) to assessing the success of the business to personnel training. In a learning environment, I define academic deliverables as student-created products that can take the form of proposals, plans, reports/papers, case studies, debates, ideas from brainstorming, decisions, portfolios, brochures, kiosks, hyperstories, or a variety of special projects (Klemm, 1998a).

An over-simplified definition of constructivism is that it is learning by doing. Constructivism is an approach that has grown from the ideas of Jean Piaget (Watzlawwick, 1984; Formann and Pufall, 1988; Butts and Brown, 1989). Central to constructivist theory is the idea that learning involves active engagement of students in constructing their own knowledge and understanding (Rieber, 1993). Constructivism is learner-centered, rather than teacher centered.

Constructivism has three components: epistemic conflict, self-reflection, and self-regulation (Forman and Pufall, 1988). Epistemic conflict occurs when a problem needs to be solved that is outside a person=s current repertoire. Resolution requires the active engagement of the learner, and is enhanced by joint engagement with other learners. Self-reflection is the learner=s response to conflict. The learner must attempt to identify the problem explicitly and objectively. Self-regulation is the process whereby the learner adjusts and reconstructs thinking to deal with the learning problem at hand.

For example, in my neuroscience course, one student was a very bright electrical engineer with expertise in electronic neural networks. The issues that we raised in our conference required him to re-think the information processing that occurs in electronic networks in the context of how nervous systems process information. He had to Areconstruct@ his knowledge and experience, in the face of conflicting evidence about how computers work and how brains work. His adjustments to these conflicts were reflected in the conference, not only enriching his own understanding of neural networks but also creating whole new dimensions of thought for the more biologically oriented students. The conference made his thinking accessible to the other students in ways that would never occur in a typical lecture class.

A Special Relevance in the Information Age. Although not new, constructivism has more compelling relevance in education today because of the dawn of the Information Age (Duffy and Jonassen, 1992). Such profound changes require us to re-think learning processes and to design instructional tools that equip learners to cope in the Information Age. In most academic

fields, it is no longer possible to expect learners to master more than a small sub-set of the total information. *The new requirement is for learners to learn how to find information, understand it, and apply it.* These are constructivist activities. The power of information technologies dictates the implementation of constructivism.

Conferencing Software

In an earlier paper, we elaborated the distinctions between e-mail, bulletin boards, and collaboration software (Klemm and Snell, 1994). Briefly, the distinction is that e-mail and bulletin boards are messaging systems, where notes are mailed from one person to the others or are posted on an electronic bulletin board for others to see. Such communication supports collaboration only in a primitive way. Students cannot directly edit each other's messages. They cannot even refer to each other=s content without cutting and pasting text from the e-mail being referenced. E-mail messages appear chronologically rather than logically. Bulletin boards organize e-mail only by some arbitrary scheme, such as a "threaded" topic outline. Specific places in the outline serve as fixed pigeonholes for each message. Moreover, a given participant cannot change or create new or multiple associations (links) among the messages. Messages attach as notes associated with other notes, rather than as Web-like links to notes associated with specific character strings within a given document. There may also be severe constraints on the use of graphics and multi-media materials. Such software collects and files messages but does not mediate the group construction of an academic deliverable.

In face-to-face interactions, there is a huge difference between holding a meeting and working as a team. The important point is that asynchronous conferencing can be used to collect e-mail messages or it can be extended to support the creation of group products. To me, it makes more sense to use software that will allow a work-team manager or a teacher to capitalize on the advantages afforded by collaboration formalisms (Klemm, 1995). In my classes, all the on-line work is done in the asynchronous conferencing system known as FORUM98 (www.foruminc.com). When a group problem is being worked on, participants can put all their ideas and comments on a common topic into a single, scrollable file, rather than having dozens of separate e-mail messages, each of which has to be opened in a separate screen. I have used this environment specifically for Ainsight exercises@ (Klemm,1998c), case studies (Klemm, 2000), and even for supervising student research projects. See application papers at www.cvm.tamu.edu/wklemm/contents.htm. FORUM allows students to create a Web-like environment, in terms of in-context hyperlinking, but provides added features of pop-up notes and document sharing. The importance of hypertext to group thinking has recently been developed in a paper by Berg, 1999.

The hypermedia linking of FORUM creates what Spiro et al. (1992) would call a necessary environment for student mastery of complex knowledge domains. Hypermedia linking allows participants to bring together various knowledge sources in appropriate and specific contexts. Learning and group productivity are enriched, because students can revisit the same material for different purposes, at different times, in rearranged contexts, and from different conceptual perspectives.

FORUM also accommodates the Spiro paper=s admonition that it is not sufficient just to link everything with everything else. Some structure that supports teaching objectives is needed so that participants do not become lost in a confusing labyrinth of incidental or ad hoc connections. FORUM achieves this by creating categories or types of links and specifying how these can be linked - in short, a linking logic structure guides the constructivist activities.

In conclusion, what is wrong with many on-line discussions can be remedied by collaborative and constructivist practices in an appropriate software environment.

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